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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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# TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371

19.

20.

Other items or information:

038908.56406US

ATTORNEY'S DOCKET NUMBER

U.S. APPLICATION NO. (If known, see 37 CFR 1.5) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 10/540.625 INTERNATIONAL FILING DATE INTERNATIONAL APPLICATION NO. PRIORITY DATE CLAIMED PCT/JP2004/008886 June 24, 2004 June 25, 2003 TITLE OF INVENTION WORM REDUCTION GEAR AND ELECTRIC POWER STEERING APPARATUS APPLICANT(S) FOR DO/EO/US Toru SEGAWA, et al. Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: 1. This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. 2. This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. 冈 3. This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. The US has been elected (Article 31). 5. A copy of the International Application as filed (35 U.S.C. 371(c)(2)) is attached hereto (required only if not communicated by the International Bureau). b. has been communicated by the International Bureau. Is not required, as the application was filed in the United States Receiving Office (RO/US). C. 6. An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). is attached hereto. a. b. has been previously submitted under 35 U.S.C. 154(d)(4). 7. Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) are attached hereto (required only if not communicated by the International Bureau). a. b. have been communicated by the International Bureau. Ç. have not been made; however, the time limit for making such amendments has NOT expired. d. have not been made and will not be made. 8. An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9 An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)) Items 11 to 20 below concern document(s) or information included: 11. An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. A preliminary amendment. 14. An Application Data Sheet under 37 CFR 1.76. 15. A substitute specification. 16. A power of attorney and/or change of address letter. 17. A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825. 18. A second copy of the published International Application under 35 U.S.C. 154(d)(4).

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Informal Comments in Response to the International Searching Authority

A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4),

PTO-1390 (Rev. 02-2005)
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U.S. APPLICATION NO. (if known, see 37 CFR 1.5)
UNITEDIATIONAL APPLICATION NO.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) INTERNATIONAL APPLICATION NO.						ATTORNEY'S DOCKET NUMBER		
10/540,625			PCT/JP2004/008886				038908.56406US	
The following fees have been submitted						}	CALCULATIONS	PTO USE ONLY
21. Basic national fee (37 C.F.R. §1.492(a)				)\$300.00			\$	
22. Examination fee (37 C.F.R. §1.492(c))								
If the written opinion prepared by ISA/US or the international preliminary								
examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) <b>\$0.00</b>								
All other situations\$200.00							\$	
23. Search fee (37 C.F.R. §1.492(b))								
If the written opinion of the ISA/US or the International preliminary examination								
report prepared by IPEA/US indicates all claims satisfy provisions of PCT								
Article 33(1)-(4)								
Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to								
the USPTO as an International Searching Authority								
International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB								
All other situations\$500							\$	
TOTAL OF 21, 22 AND 23 =							\$	
Additional fee for specification and drawings filed in paper over 100 sheets (excluding								
sequence listing or computer program listing filed in an electronic medium). The fee is								
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claimed priority date (37 CFR 1.492(h)).  CLAIMS NUMBER FILED NUMBER EXTRA RATE							Ψ	
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Total claims		- 20			x 50		\$	
Independent claims - 3			x 200		)	\$		
MULTIPLE DEPENDENT CLAIM(S) (if applicable) + 360							\$	
TOTAL OF ABOVE CALCULATIONS =							\$	
Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.								
SUBTOTAL = \$								
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the								
earliest claimed priority date (37 CFR 1.492(i))+							\$	1112 112
TOTAL NATIONAL FEE =							\$	
Fee for recording the enclosed assignment (37 CFR 1.21 (h)). The assignment must be							\$	
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property+								
TOTAL FEES ENCLOSED =							\$	
							Amount to be refunded:	\$
							Amount to be	
							charged:	\$
a. A check in the amount of \$ to cover the above fees is enclosed.								
b. Please	charge my Dep	osit Account No. 0	)5-1323 (Attorney Dock	cet No. 0	38908.5640	6US)	in the amount of \$ to	cover the above fees.
A dupi	icate copy of t	his sheet is enclo	sea.					
c. 🔲 The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 05-								
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NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed								
and granted to restore the International Application to pending status.								
SEND ALL CORRESPONDENCE TO								
SEND ALL CORRESPONDENCE TO:							$\mathcal{M}$	
Crowell & Moring, LLP Intellectual Property Group								<del></del>
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	o. (202) 624-250			32,16	9			
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JDS:pct March 28, 2006  DATE								<del></del>

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### VIA FACSIMILE & MAIL

PCT Operations Division, International Bureau of WIPO 34, chemin des Colombettes. 1211 Geneve 20 Switzerland

31 May, 2005

## Informal Comments

Re: International application No.: PCT/JP2004/008887

International filing date: 24 June, 2004 Priority date: 25 June 2003 Applicant: NSK LTD, et al

Applicant's or agent's file reference: NPS224PCT

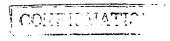
#### Dear Sirs:

The Applicant hereto states his comments against the comments made by the Examiner of International Searching Authority mailed on 21 September, 2004, with regard to Claim 4 and the dependent claims thereof.

The Examiner's comments for Claim 4 are as follows:

In Document 1 (JP2001-108025) cited in International Search Report, applying an elastic force to the worm shaft in a direction towards the worm wheel through the pair of elements ("rolling elements 32" in Document 1) is described. One skilled in the art can replace the pair of elements by a pre-load pad easily. In addition, a direction of possible displacement of the rolling elements 32 in Document 1 is inclined with respect to a virtual plane containing the central axis of the worn shaft and meshing portion between the worm provided on the worm shaft and the worm wheel. Therefore, the invention described in Claim 4 lacks the inventive step.

However, the Applicant considers that the Examiner misunderstands the essential feature of this invention. The feature of this invention lies in that the displacement (elasticity) of the pre-load pad in the axial direction of the worm wheel is differentiated depending on the rotation direction of the worm wheel, due to the fact that the force applyed to the worm is different in the rotation direction of the worm wheel. That is, according to the structure described in Claim 4, the angle between the



shaft, which differs with the direction of rotation of the wheel, and the direction of displacement of the pre-load pad, becomes approximately equal irrespective of the direction of the reaction force. Hence the difference in the amount of elastic deformation of the pre-load pad based on the reaction force due to this difference in direction can be readily reduced (Paragraph 31 of this specification). Document 1 does not disclose nor suggest the feature of this invention. Therefore, the applicant believes that the invention described in Claim 4 fulfills the inventive step.

The Applicant wishes his comments should be taken into consideration when the application is examined in the national stage of each designated state.

Sincerely yours,

Tetsuaki Kamoda Patent Attorney